

DATES

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DATA

November 22

**Astronomy seminar:** The JSC Astronomy Seminar Club will meet at noon Nov. 22 and 29 in Bldg. 31, Rm. 248A. For more information contact Al Jackson at x35037.

**Spaceteam Toastmasters meet:** The Spaceteam Toastmasters meet at 11:30 a.m. Nov. 22 and 29 at United Space Alliance, 600 Gemini. For more information contact Patricia Blackwell at (281) 280-6863.

November 23

**Communicators meet:** The Clear Lake Communicators, a Toastmasters International club, meet Nov. 23 and 30 at 11:30 at Wyle Laboratories, 1100 Hercules, Suite 305. For more information contact Allen Prescott at (281) 282-3281or Richard Lehman at (281) 280-6557.

November 30

**Radio Club meets:** The JSC Amateur Radio Club meets at 6:30 p.m. at Piccadilly, 2465 Bay Area Blvd. For more information contact Larry Dietrich at x39198.

December 1

**Chess Club meets:** The Space City Chess Club meets from 5 p.m. - 9 p.m. at the Clear Lake Park Recreation Bldg. All skill levels are welcome. For more information call James Mulberry at x39287 or James Termini at x32639.

December 4

**NSS meets:** The Clear Lake area chapter of the National Space Society meets at 6:30 p.m. at the Parker Williams Branch of the Harris Co. Library at 10851 Scarsdale Blvd. For more information contact Murray Clark at (281) 367-2227.

December 5

**Quality society meets:** The Bay Area Section of the American Society for Quality will meet at 6 p.m. at Franco's Real Italian Restaurant on NASA Road 1. No reservations are required. For more information, contact Ann Dorris at x38620.

December 7

**Warning System Test:** The site-wide Employee Warning System performs its monthly audio test at noon. For more information contact Bob Gaffney at x34249.

December 8

**Astronomers meet:** The JSC Astronomical Society meets at 7:30 p.m. at Space Center Houston. For more information contact Chuck Shaw at x35416.

December 12

**Aero Club meets:** The Bay Area Aero Club meets at 7 p.m. at the Houston Gulf Airport clubhouse at 2750 FM 1266 in League City. For more information contact Larry Hendrickson at x32050.

**IAAP meets:** The Clear Lake/NASA Chapter of the International Association of Administrative Professionals meets at 5:30 p.m. in the Colonial Room at Grace Community Church, 14325 Crescent Landing (Hwy 3 & Clear Lake City Blvd.). Cost is \$12.

**NPMA meets:** The National Property Management Association meets at 11:30 a.m.at the Gilruth Center. For more information contact Ray Whitaker at (281) 212-6030.

December 13

**MAES meets:** The Society of Mexican-American Engineers and Scientists meets at 11:30 a.m. in Bldg. 16, Rm. 111. For more information contact Laurie Carrilo at 281-244-5203.

December 14

**Airplane club meets:** The Radio Control Airplane Club meets at 7 p.m. at the Clear Lake Park building. For more information contact Bill Langdoc at x35970.

December 21

**Directors meet:** The Space Family Education board of directors meets at 11:30 a.m. in Bldg. 45, Rm. 712D. For more information contact Lynn Buquo at x34716.

NASA BRIEFS

SAFETY SYSTEM STEERS PILOTS  
CLEAR OF CLOSE CALLS

Overcrowded airports mean overcrowded runways, taxiways and ramps. On-the-ground collisions at the nation's airports are occurring more frequently, but NASA engineers have developed a way to keep aircraft on track and away from dangerous encounters.

It is an advanced cockpit display system, developed at NASA's Langley Research Center. The Runway Incursion Prevention System, or RIPS, would give pilots and air traffic controllers an early warning if another plane or ground vehicle is about to intrude onto the runway.

Close calls between aircraft and ground vehicles or other planes, often called runway incursions, have grown steadily during the past decade. In the last five years there has been a 60 percent increase in near-collisions, according to the National Transportation Safety Board, with 320 incidents reported in 1999 alone. Reducing runway incursions has become the Federal Aviation Administration's number one safety priority.

Harry Verstynen, the chief pilot from Langley, said the RIPS display has multiple uses. "Even for the large percentage of the time that you are not having a runway incursion," he said, "the displays that are being developed as part of this project will give the pilot significant improvements in situational awareness on the airport and taxiing in low visibility conditions."

Technicians equipped a NASA 757 aircraft with the experimental displays and computer systems. NASA and airline pilots made a number of overnight flight tests at Dallas-Fort Worth International Airport to evaluate the technologies. Their observations will be used to help refine the displays for possible use in airliners.

Airline pilots have given the system high marks. "We have made several recommendations on some changes, but overall it's a well-thought out system," said John Penney, Advanced Maneuvers Program Manager and Standards Captain B-757/767 of United Airlines. "With a few minor adjustments, I think it's something commercial industry and aviation industry should take and grab hold of."

NASA's Runway Incursion Prevention System integrates several advanced technologies into a surface communication, navigation and surveillance system for flight crews and air traffic controllers. It combines a head-down display of an electronic moving map of airport runways and taxiways with a head-up screen that gives the pilot real-time guidance. The system shows and sounds alerts if another plane or vehicle is about to encroach onto the runway. RIPS also uses specially developed computer software, GPS signals and ground technologies developed by the FAA's Runway Incursion Reduction Program.

NASA AWARDS CONTRACT FOR  
SHUTTLE EXTERNAL TANKS

NASA and Lockheed Martin Space Systems, of New Orleans, La., have completed negotiations for production of 35 additional Super Lightweight External Tanks for the Space Shuttle Program.

The six-year contract, worth approximately \$1.15 billion, includes the manufacture, assembly, test and delivery of the Super Lightweight Tanks and the operations and maintenance of NASA's Michoud Assembly Facility in New Orleans. The contract also includes activities at NASA's Marshall Space Flight Center and Kennedy Space Center.

This sixth production of tanks will be the first comprised totally of Super Lightweight Tanks. This latest version of the tank, which flew for the first time in June 1998, is the same size as the tank it replaces, but is about 7,500 pounds lighter. The weight reduction allows the shuttle to carry more payload.

The first tank of the sixth production is scheduled for delivery to the Kennedy Space Center in 2002.

Mentors and judges needed

National Engineers Week Texas-Houston Regional Future City Competition FC2001 has begun. It involves teams consisting of three seventh and eighth graders, a teacher and an engineer mentor who conceive, analyze, and design a future city using SimCity 2000 software, write an essay and abstract of the city built, make a physical model of a portion of their future city, and make a presentation on the features of their creation. This four-phase event culminates January 27 at the Texas-Houston Regional competition at San Jacinto College Central. All registered schools have been provided Sim-City 2000 software and a Teachers Guidebook to help the teams.

The competition is open to all public, private, and home schools. This year's competition has participation from intermediate/junior high schools from Houston, Deer Park, Aldine, Pasadena, Goose Creek, Atascosita, Barbers Hill, Santa Fe, Crosby, and Clear Creek school districts, in addition to several private and home schools.

Engineering mentors are needed for the school teams and judges are needed for the competition January 27. If you are interested in volunteering, please contact Dr. Zafar Taqvi, Texas-Houston Regional Future.City Competition coordinator at 281-244-4436 or via email at taqvi@ieee.org.

More information on FC2001 is available at [www.ghgcorp.com/ieeegbs/futurecity-houston](http://www.ghgcorp.com/ieeegbs/futurecity-houston).

TICKET WINDOW

The following discount tickets are available at the Exchange Stores

Sony Loew's Theaters	\$5.50
AMC Theaters	\$5.00
Astroworld	1 day \$21.00
Moody Gardens (2 events) (does not include Aquarium Pyramid)	\$10.75
Moody Gardens (Aquarium only)	\$9.25
Space Center Houston	adult \$11.00 child (age 4-11) \$7.25
(JSC civil service employees free.)	
Space Center Houston annual pass	\$18.75
Postage Stamps (book of 20)	\$6.60
<b>September 30 - November 14</b>	
Texas Renaissance Festival	adult \$16.00 child (age 5-12) \$6.50
Entertainment Books	\$20.00
Franklin Planner Refills (Classic Style)	\$25.50
Franklin Planner Refills (Seasons and Montecello)	\$30.25
Holiday Gift Wrap available November 15 to December 15	

Check out our new website on the JSC People page at: <http://hro.jsc.nasa.gov/giftshop/>

Exchange Store hours

Monday-Friday	
Bldg. 3	7 a.m.-4 p.m.
Bldg. 11	9 a.m.-3 p.m.

- All tickets are nonrefundable.
- Metro tokens and value cards are available.
- Sweetwater Pecans \$6.25 per lb.
- Chocolate-covered Pecans \$8.00 per lb.

For additional information,  
please call x35350.

Please bring your driver's  
license to pay by personal check.

SPACE CENTER

Roundup

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